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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,885

07/20/2004

Sou Kuroiwa

042600

6564

38834 7590 03/08/2007  
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EXAMINER

WEINSTEIN, LEONARD J

ART UNIT

PAPER NUMBER

3746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/501,885

Applicant(s)

KUROIWA ET AL.

Examiner

Leonard J. Weinstein

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/20/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajiwara 5,256,033 in view of Lovisetto EP 554,266. Kajiwara teaches all the limitations as substantially claimed for a multistage pump having a plurality of intermediate casings including: a plurality of intermediate casings each having a cylindrical side portion 21, a stage flat portion 27 with which an axial end face 28 of an adjacent intermediate casing 20 is held in contact, a stage side portion 25 extending axially from said stage flat portion 27, and a bottom portion 24 extending radially inward from said stage side portion 25, a relief plate 33 attached to said bottom portion 24 of the intermediate casing 20, and the relief plate 33, stage side portion 25, stage flat portion 27, and inner surface 23 of the cylindrical side portion 21 of an adjacent intermediate casing 20 form a

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space in which an O-ring is fitted (Kajiware – col. 6 ll. 15-20), a return vane 32 interposed between a side plate 34 and said relief plate 33 is formed integrally with said relief plate 33, figure 1; a return vane having a height at an outer circumferential side, side above element 29 is larger than that at an inner circumferential side, side of element 32 below element 29, figure 1 of Kajiware shows element 33 orientated at an angle ( $\delta$ ) from the vertical axis of element 34; and a relief plate 33 attached to said bottom portion 24 at a position near its outermost portion 29 so as to form a gap 30 between a radially inner portion, area of element 33 below 29, of said relief plate 33 and said bottom portion 24 of said intermediate casing 20 according to an amount of deformation of the bottom portion 24 due to a differential pressure between stages (Kajiware – col. 4 ll. 21-32). Kajiware fails to teach the following claimed limitation that is taught by Lovisetto for a multistage pump 1 with intermediate casings 2 and a relief plate 12 having an outer circumferential end face 18 which is held in contact with an inner surface 13 of a cylindrical side portion 11 of an adjacent intermediate casing 2 (Lovisetto – Figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the relief plate of Kajiware to be attached to an inner surface of a cylindrical side portion as taught Lovisetto, to reduce the number of component parts in an intermediate casing and simplify its assembly (Lovisetto pg. 2 ll. 11-15).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are cited on form 892 herewith.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. Weinstein whose telephone number is 571-272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LJW

03/05/2007

  
Charles G. Freay